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No. 53.

Editorial Comments

A Happy New Year to All!

May 1904 be the best and sweetest year of all your bee-keeping lives. May many good new resolutions not only be formed, but speedily kept throughout the year. Again, we say, A Happy New Year to all!

The Index to Volume XLIII.

This, as usual, occupies several pages in this the last number of the old American Bee Journal for 1903. It seems to us it shows a much larger variety and number of apian subjects than ever before. It is a record of a great year in the history of this journal. But we trust it is but an indication of what it will be during the year that is just beginning.

Few realize what it means to compile an index like the one appearing this week, unless having had the experience of getting up an index. We have had it to do almost every year for twenty years. It is a task that is not eagerly looked forward to. It is a tedious one. It is not at all interesting work, but when properly done it is of very great value to all who preserve the complete volume of the Bee Journal.

And what a volume a year's copies of the American Bee Journal makes! Over 800 good-size pages! And all for only one dollar!

Clipping Queens Not a Preventive of Swarming.

For the sake of new members of the American Bee Journal family it seems necessary to say this once in so often. A writer in the British Bee Journal, speaking of clipping queens' wings, innocently says: "I tried this American plan.....but the swarm issued the week following." Now, be it known to all and sundry that clipping a queen does not in the slightest degree prevent the issuing of a swarm. Clip the wings of a queen, and a swarm will issue from that colony at precisely the same time it would have done if the queen had not been clipped, whether that time be a day or a year later.

The value of clipping consists not in the prevention of swarming, but in the fact that a clipped queen can not go with the swarm if it attempts to abscond, and the swarm will not abscond without a queen. But a little intelligent management is needed with clipped queens, for there is nothing to prevent the swarm leaving with a virgin queen a week or more after the issuing of a prime swarm.

Curing Foul Brood With Formaldehyde.

Geo. E. Hinkley, foul brood inspector for Santa Barbara Co., Calif., claims to have cured foul brood in a very simple manner by means of formaldehyde, merely spraying the liquid three times upon the floor of the hive. He says in *Gleanings in Bee-Culture*:

At first I did not have the success that I desired; but I did a little differently each time, and finally have come to the conclusion that it will cure foul brood and black brood if rightly used. It has done the work all right, as I have used it of late. I have treated several apries, varying from two to over a hundred colonies in each, and have cured all that I have treated under my present system. Now, for my mode of treatment.

I use a Goodrich atomizer No. 4, and formaldehyde, equal part

with water. Go to the hive to be treated and raise the body of the hive in front enough to work so as to spray the liquid onto the bottom-board. The bottleful will be enough for about six hives for one application, which I make three as a course of treatment. I make the applications about two weeks apart, and apply it cold, and do no more than to spray it onto the bottom-board. If it is sprayed onto the combs it will kill all that it touches. The gas dries up the diseased matter in the cell, and the bees clean it out and make everything shine, and the colony soon becomes strong and prosperous; but the hive must have ventilation, or the gas will asphyxiate the bees, and that makes a bad matter worse. If the hive is tight the cover must be raised by placing something between it and the top of the hive, about $\frac{1}{4}$ inch thick. After spraying the liquid on the bottom-board, set the hive back in place, and the work is done.

That a cure can be effected so easily seems almost past belief; yet it is possible. Coming from one in an official position, it is at least worthy of consideration, and if it should prove equally effective in other hands it will be a boon.

Extracted Honey vs. Comb Honey.

The editor of *Gleanings in Bee-Culture* says: "When sections become more scarce and expensive, and when there are pure-food laws in State and Nation, extracted honey will to a great extent supplant comb honey, and its production will become more general."

That pure-food laws will increase the consumption of honey there can be little doubt; that they will have a tendency to make extracted honey supplant comb may be questioned. The fear of adulteration in extracted honey is at present against its sale; but is there not in the mind of the public just as much fear of adulteration in comb honey? Certainly more has been said in that direction in the public prints. Take away the fear of adulteration in each, and will there be any change whatever in the relative demand?

When the material for one-piece sections becomes scarce, four-piece sections can take their place, increasing the cost a fraction of a cent on a pound. Consumers are now willing to pay several cents a pound more for comb honey; would the addition of a fraction of a cent on a pound make any material difference in their preference?

Bees Stinging a Returning Virgin Queen.

Dr. A. W. Smyth says, in the *Irish Bee Journal*, that "if a young queen returns to the hive, after leaving with a swarm, the workers will sting her at once." Is that so in all cases?

Rules for Grading Honey.

In the *Bee-Keepers' Review*, R. L. Taylor pays his compliments to the rules for grading honey, after the following vigorous fashion:

Bee-keepers are further hampered by the set of artificial and impossible rules now in vogue for the grading of honey, which seem framed for the purpose of giving unfair purchasers of honey something about which they may complain with some show of reason in order to mulct the seller in a cent or two a pound. In that he claims to see stain on cappings of fancy honey, and more than the prescribed amount on grade No. 1. Strange to say, these rules entirely ignore quality; and thin honey, with an unpalatable tang, other things being equal, marches fully abreast with the rich, thick, well-ripened article. They strain at a gnat and swallow a camel. Every comb-honey producer knows that not one section in a thousand can be found that will not show some stain, and that a degree of stain that does not disfigure the honey is no detriment, but rather a guaranty of ripeness.

I shall not discuss these rules here, further than to say that any set of rules made to govern the grading of comb honey ought to insist on high quality for the higher grades. Such a rule would at least have a tendency to disseminate a knowledge of the conditions necessary to the thorough ripening of honey, as well as to put honey under

such conditions. I have no doubt that in the end it would increase the demand for honey, and thereby increase the ease with which honey may be sold.

It may reasonably be supposed that Mr. Taylor refers to the Washington rules, which appear as standing matter in each number of the journal in which his article appears. Some doubt is thrown upon this by his speaking of "the prescribed amount" of stain on grade No. 1, as if more stain were allowed on No. 1 than on fancy honey, whereas, in the rules, there is no distinction, both fancy and No. 1 having "both wood and comb unsold by travel-stain or otherwise."

That, however, is not material, for Mr. Taylor's main contention is for quality, and that is left unmentioned in other rules for grading, as well as in the Washington rules. It is undoubtedly true that the man who is best informed will put quality as the first consideration in purchasing honey. Now, let Mr. Taylor frame a set of rules involving quality that shall prove acceptable to the fraternity in general, and a debt of gratitude will be due him.

Why Drones are Driven Out.

That interesting writer, Dr. A. W. Smyth, says in the Irish Bee Journal:

The workers, in the fall, keep marching and driving out the drones, so as to have them die on the outside of the hive and away from the colony. A dead drone in the hive in winter is very objectionable to the workers. A whole colony of workers frequently die in the hive, but I never detected any unpleasant odor from dead worker-bees, while a dozen or two of dead drones will give off a very disagreeable odor of putrefaction. The poison in the worker-bee becomes disseminated through the body after death, and arrests decomposition.

However it may be in Ireland, a pile of dead bees in this country is by no means always, if ever, devoid of odor. But the idea that the workers drive out the drones so that they may die outside the hive is a new and interesting suggestion. When you come to think of it, what other object could they have? If the drones die because the workers no longer feed them, they would die without any driving, but it is a good deal easier to drive out the living drones than to drag out their carcasses after death.

Number Fifty-Three.

Did you notice that this copy of the American Bee Journal is "No. 53?" This year has 53 Thursdays in it, and so there are 53 issues of the Bee Journal. Really, only 52 are expected of us, but we put this one in for "good measure." We know it will be appreciated by many, as it contains the large and valuable index. So far as we know, no other bee-paper in this country ever issues an extra number. We know that some others print an extra number of pages, but we never knew any of them to issue 13 or 25 in any one year; it is either 13 or 24. But we reach 53 this year! And no extra charge. 848 pages of bee-literature for \$1.00! We ought to have 25,000 subscribers right now.

Miscellaneous Items

Mr. Wm. McEvoy, the popular and efficient inspector of apiaries for the Province of Ontario, wrote us as follows Dec. 14:

"I am well pleased with the American Bee Journal, and hope to continue it to the end of my days."

Swiss Honey is being offered to Americans, it seems from the following which was recently mailed to R. A. Burnett & Co., by Ul. Tuchschnid, who does business in a large city of Switzerland. We print the circular as nearly like the original as possible, both as to language, punctuation, etc. Here it is:

I beg to offer you SWISS HONEY neatest selection from flower harvest, yellow like gold, in cases of 50 glasses, 1 pound each, at 80 frs. a case, comprising packing, free Basle, payable at receipt with Cheque on Switzerland net.

Carriage Basle-New-York frs. 8.20 per 100 Kilogr. (1 case—37 Kilogr. gross). Insurance by land and sea from here to New-York against loss, average, breakage 6 percent which, on your demand, I shall effect here for your account.

This Honey is undoubtedly the finest article of Fancy Grocery; it is not only a highly exquisite delicacy, but also a remedy for many

an outward and inward infirmity, an antiseptic preservative remedy (cleaning wounds, blisters from burning); therefore it is warmly commended by physicians, especially for children. It is for the wealthy as well as for the poor, benefiting them all likewise.

Our quality is in no way to be put upon the same level with the common article of foreign countries; leaving even aside its being a produce of the Alpine flora, its strongly flavoured, incomparable nectar, it is not to be forgotten that with us teachers and parsons in the country are the chief apiarists, who do the business more from sheer pastime and with the utmost cleanliness. All our honey gets slung (worked out carefully), no such use as in foreign countries where often comb-honey, together with maggots, may even rotten brood is pounded, boiled and expressed. Such an article is not only nauseous, disgusting, but at the same time hurtful to health.

In order to serve my customers to the utmost nicety, I have chosen glasses, the nicely printed zinc lids of which close hermetically, so there will never be any leakage, however fluid the honey, in whatever position the glass may be; no clammy hands and—last but not least—Swiss Honey may be preserved for a whole generation without undergoing any change.

The patent cases to be shut and opened without any tool, contain compartments so that each glass stands separately. During ten years I have furnished honey to a house in New-York, never a glass has been broken, and yet honey is by 1½ heavier than water or wine. Cases as well as glasses by themselves are of good use.

Incomparable quality, sure packing and its lasting unchanged and palative for years and years, there are the titles to commend our article.

At first sight the price of the article may seem somewhat high, but he who has got acquainted with its superiority, does not mind that little more; Swiss Honey becomes indispensable for him. On the other hand, I could not possibly make any allowance, the produce of the article being limited and prices pretty high at home.

Inviting you to have a fair trial, I remain, Sir,
yours truly

UL. TUCHSCHMID.

Of course, honey that "gets slung" may be better than honey that contains "maggots, may even rotten brood," "pounded, boiled and expressed." We don't know just to what "foreign country" he refers, where honey is taken in that way, but it must be in Europe somewhere, for surely we don't have that kind here.

At any rate, Mr. Tuchschnid is quite enterprising, and has a famous honey, if all his circular letter is to be believed.

Contributed Articles

Oil of Eucalyptus for Bee-Diseases—Cleaning Extracting-Combs.

BY C. P. DADANT.

MR. DADANT:—I was very much interested in the article on foul brood, on page 696. I was afraid my bees have foul brood, but since reading everything I can find on that subject, I have concluded it is not foul brood. The bees die in the cells and nearly all of them are white, with black heads, and they are full of water. The cappings are not sunken, but are elevated, with a small hole in the center. I want to try your remedy—the oil of eucalyptus. If it isn't too much trouble please answer the following questions:

1. Would it be best to use the oil now, or wait until the queen begins to lay, which will be about the first of February?
2. How much oil will it take to treat 20 colonies five weeks?

BULLITT Co., Ky.

I should not think of sending my answer to the above letter for publication, were it not that the same error has been made hundreds of times, to my knowledge. If the description given of the so-called diseased brood is exact there is no disease at all in this case. It often happens that the bees, from some cause or other which has not yet been made very plain, leave patches of larvæ uncovered at the time of their transformation. That is, they narrow up the cell but fail to seal it, and leave a small opening through which the transforming of an insect may be seen. Sometimes a patch of brood several square inches in diameter will be treated in this way. It has been suggested that the lack of sufficient space between the combs for a full capping is responsible for their action, but I doubt this, as the cell is slightly raised in narrowing it, and, to my mind, this partial covering occupies as much space as the ordinary flat capping. Be this as it may, the fact remains that often the bees will thus leave patches of brood only partly sealed. When the insect goes through its last transforming stage, its eyes become dark first, they have a bluish-black appearance while the remainder of the body is yet white and in-

maculate. The effect is striking, the black head, with white body underneath and perfectly still condition of the chrysalis, give them the appearance of "silent corpses," to quote A. I. Root. The description given in the above letter answers this condition exactly. If our correspondent will examine the bees when in this condition, he will find that they are not at all decayed, but simply in a state of transformation. So he may rejoice in the fact that his bees have no disease, and that he is not the first one who has made this mistake, of taking a perfectly natural, but not often seen, condition for a disease. I have heard a number of such enquiries, and I am evidently not the only one who has met this question, for A. I. Root, already mentioned, speaks of often receiving enquiries concerning this particular condition of brood, from novice bee-keepers.

I am very glad to see so much discussion of the question of foul-brood. Sooner or later a very positive cure will be devised, so that we may not find it necessary to destroy any part of the hive. We owe thanks to men like Mr. France, who are so pertinacious in seeking remedies and making experiments.

The quantity of oil of eucalyptus to be used must depend upon the size of the hive. If this remedy should prove efficacious in foul brood (which is not yet entirely proven), it should be used in sufficient quantity to scent thoroughly every part of the hive for weeks together. A teaspoonful on cotton will give scent for quite a while, and doses must be repeated as often as necessary. From the experiments I have reported, I am sure it will do away with minor diseases, and whenever we do this we will find that we have much reduced the supposed scope of the true disease.

I cannot but take issue with those who say that the use of fire will ever remain the only thorough remedy for grave cases of foul brood. Some of the worst diseases of the human race have been entirely eradicated from civilized countries, and accidental cases are treated so as to bring about almost positive assurance of cure. It is only a few hundred years since the plague decimated cities in the most civilized portions of Europe. The plagues of Marseilles, of Florence, of Moscow, have become historic by their extent and horror. This plague, which was then called "The Black Plague," was probably none other than the "bubonic plague," which civilized countries fear no more, though it still exists in some uncivilized regions. But at the time when these terrible diseases were raging, there was no other method known of disposing of them than doing away with the sick people. I can still remember seeing, near my old birth-place (Langres), in old France, in the suburbs, a house which had retained the name of "La Maladiere," because in times of plague the sick persons were removed to that spot to fare as best they could. That was the only way they had then of fighting contagious diseases. But we have progressed, and are still progressing, thanks to the enquiring minds of our leaders in science and medicine, and the study of microscopy is one of the great factors in the present progress.

CLEANING EXTRACTING-COMBS IN THE OPEN AIR.

I have just read the expression of opinion of "Our Bee-Keeping Sisters," on page 793, concerning giving extracting-combs to the bees for cleaning in the open air. I am still unconvinced of the advisability of this method. The combs are not all repaired, but rather further damaged by them. The bees have so free an access to these combs that even the neighbors' bees are welcome to the feast. The strongest colonies get the biggest share of the honey, and if there happens to be a weak colony in the neighborhood it seems as if hundreds of inquisitive bees take the opportunity of an uproar to pay them a visit to see whether their stores are well guarded.

I can see no objection to putting the combs back on the hives that we select, to have them cleaned during the night so that there is no uproar, and I still think it is the best way. It is probable, however, that with our deeper frames and very large hives, we have less trouble with bees moving upstairs than with shallow hives, especially as our supers are all shallow, and therefore less attractive to the colony as a residence. Hamilton Co., Ill.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of \$1.00 for your Bee Journal subscription a full year in advance, we will mail you a Wood Binder free—if you will mention it.

Different Races of Bees in the South—Smoker-Fuel.

BY JOHN KENNEDY.

ORIGINALLY there was but one kind of bees to be found in this part of the United States, and that was what is known as the black bees. They were considered great honey-gatherers, and feared by all who handled them on account of their cross, irritable disposition. Since the introduction of Italian bees, although to no great extent, there is now a variety of grades, and the genuine black bee is almost a thing of the past.

With the most of them the cross is so far off that nothing but a very close observer would detect it. I have been handling bees for five or six years, having an apiary of about 100 colonies, and in all my dark, or native bees, but few of them are without some yellow, and almost all of them are what I would call brown instead of black bees. While I have some late purchases of Italians and Carniolans, I find among my native bees some with almost as much yellow as the progeny from queens I have bought of reliable breeders.

I notice different writers in the American Bee Journal speak of their three-banded Italians. I think, if I am not mistaken, that all bees are three-banded that I have ever noticed. I have bees from two queens that are perfectly yellow. Then I have what the bee-men call the yellow, clover queens, with dark stripes, that look to me about what a half cross between our native and the Italians would be.

Now, to the point of my information wanted: These Italian bees are not nearly as large as our native bees, when I have always heard the Italian bees were larger. Can it be that I have been imposed upon by queen-breeders in selling me impure stock, or has the climate, or locality, or anything else, anything to do with it? I can not believe such men as I have bought queens of would sell me any "bogus" stock.

How is this: Are all Italians smaller than the native bees of this country? I have bees of eight different shades in the same hive; while some of them have a distinct yellow band, others of the same colony have no yellow at all; thus showing how bees vary in color. I noticed, among my yellow golden Italians, some bees with dark stripes. The Carniolan queens I have purchased recently have not hatched out any bees yet, and therefore I cannot report on their size. It is said they are much larger than the native bees; but if they don't prove to be of larger size than the Italians, they, too, will fall short of representation.

My object of writing this for publication is, that some reader may reply through the columns of the American Bee Journal by the way of comparing notes, for it may be that native bees of the Northern and Western States are smaller than those of this climate; and the Italians I have so far reared from Western queens may be the usual size, and all right. They are the first and only bees of the kind I ever saw; but they are greatly inferior in size to our natives. As to their honey-gathering qualities I can't say, but if we get through the winter, and I have enough to begin the next nectar season, I may be in position to answer, with them side by side, giving all an even chance.

It is strange to me that here in this temperate climate, where the summer constitutes the greater part of the year, the bees cannot give any surplus, and very often don't store sufficient to live through the winter. There must be something radically wrong. It may be in the management, or it may be all attributable to the lack of nectar. It is a fact, known to all the bee-men of this part of the country, that after the first of June, or thereabouts, our bees store nothing more; sometimes they may gather sufficient barely to live on, but to store any surplus is a rare thing.

I notice the different writers in the American Bee Journal speak of different honey-plants their bees gather from through the fall. Such a thing is unknown here, or at least to me. We have fall flowers, but I am not much of a botanist, and do not know the names of our fall flowers. We have them, of course, but it is seldom a bee is seen on them; and when they are it seems to be for pollen. Of course, we know they work on cotton, but that is about all I can see.

I have about come to the conclusion that the only way bees can be handled to any advantage here, unless it be in strictly isolated cases, is to plant forage for them, and the next question arises, What are the plants we could grow here that will furnish nectar? I read about goldenrod in the West as being such a good honey-plant. Why, here the bees hardly ever visit it. There are localities, however,

down here along the valley of the wooded part of the Mississippi river, where bees make a success; but out in the hills, where I live, 8 miles from the Mississippi river, there are only a few nectar-bearing plants. If I could get the information as to what to plant for my bees I would solve the problem very soon; but I don't know, and unless some good sympathizer will reply to this, I shall have to remain ignorant.

I love my bees, and have started out to understand their habits and nature as far as possible by close study, and I will be most grateful to any one who will reply to this article. I am going to plant the following this fall to try them: Alsike, crimson, sweet white, sweet yellow, and white Dutch clovers; and next spring, catnip, rape and buckwheat. How will these do, as planned above? I had some buckwheat on hand, but could not plant it until about the middle of September. It grew nicely and bloomed all right, as far as I can tell, but the bees did not seem to care much for it. I thought during such a scarcity here they would simply go wild over it; but I was the only one excited over the matter. The bees took it very calmly, although they worked it for the nectar. I don't think they gathered any pollen from it.

CEDAR-BARK FOR SMOKER-FUEL.

Before I conclude this article, I wish to add an item on smoker-fuel. I notice "Pennsylvania," on page 666, recommends corn-cobs. I believe I have tried a little of almost everything in the last 5 or 6 years of my experience, and have never found anything to equal the bark of the cedar-tree. The outside bark of a live tree can be gathered, and it is always dry, even on a rainy day. It is better than corn-cobs for one reason, especially—it does not create the heat that corn-cobs do; while cobs may last a little longer. You can skin the bark readily from a dead post and store it away in a dry place for future use. Nothing lights so quickly, in the way of wood, as cedar-bark, and it never goes out until it is all in ashes. You can lay the smoker down for half an hour or more without the least sign of fire in it, and give a puff or so and you have the smoke in large volumes. It may somewhat depend on the kind of smoker. I use the Cornell, improved. Cedar-bark is the fuel for that smoker.

Beginners, and especially lady bee-keepers, generally use too much smoke, and, if I will be excused for giving advice, I will recommend that no more smoke than is absolutely necessary should ever be used. It is a fact with me, and I can't see why it should not be so in all cases. You can handle bees so as to require little or no smoke. A friend visiting me offered to wager me I could not enter a hive and remove a frame without smoke. I took it up, but I selected a hive into which I had recently introduced an Italian queen, and had handled considerable. I not only removed one frame, but eight, and found, and pointed out, the yellow queen to him. You can make bees gentle by handling them properly. Smoke subdues them, of course, but it also irritates them.



Adams Co., Miss., Oct. 19.

The Movable-Frame Hive vs. the Box-Hive.

BY "A VIRGINIA BEE-KEEPER."

I WAS very much and agreeably surprised to find my letter on "Box-Hives vs. Modern Hives," (see page 750), noticed and commented on by so eminent a bee-keeper as Dr. Miller, on page 792. As he has asked a good many questions in his kindly comment, perhaps I will be allowed space enough to try to answer some of them, though I would like to preface my remarks by mentioning that I feel very much like a school-boy suddenly confronted by the head master, and asked to give him information on subjects which are his especial forte.

First, let me quote a passage from my original contribution: "To illustrate the expense connected with the change from box-hives to modern hives, I give my own experience."

This may be another question of "locality," but the facts in my own case were substantially as set forth in my letter. That is to say, when I contemplated making the change to modern hives, and after I had laid off the ground for my apiary after having decided on the number of colonies I would keep and the kind of hives I would use, I made a rough estimate of the cost of the entire necessary supplies for an apiary of 50 colonies. This estimate I discussed with the owner of the hives that I had on shares, and proposed that the change should be made in the next four

years, and also proposed that he should pay one-half of the expenses and I would pay the other half, while the surplus honey should be divided between us evenly. He decidedly and emphatically refused, and I then offered to buy his bees in the box-hives, as I did, and which I considered a much better proposition for me. I stopped at four years, because I do not, at present, intend to allow my apiary to grow larger than that, spring count, even if I have to destroy swarms, queen and all.

"Are all the items given, fairly to be charged to box-hives?" I suppose you mean charged to modern hives? I think I should be inclined to say "Yes" to this question, as it would be hardly worth while to make the change at all to movable-frame hives unless one expected to use rather more enlightened methods than those usually in practice by owners of box-hives. You say, "The items must be charged, not to movable-frame hives but to improved methods of bee-keeping." Well, for that matter the movable-frame hives themselves should also be charged to "improved methods of bee-keeping."

In this locality it is almost a misnomer to call the farmers bee-keepers, as they generally fail to keep them, losing most if not all swarms, and little or no attention is paid to bees, and little or no honey ever taken from them. I know of a few "patent" bee-hives in use, none of which I would accept as a gift, and several scattered box-hives. Thus, I should be inclined to say that, barring the expense, which I only stated as one reason against modern hives, the next main reason is that the farmers here do not give the time necessary to run an apiary successfully, and therefore would be very little better off with all the latest modern hives and appliances than they are with their old boxes.

I may add here, that for 8 or 9 years I had been desirous of starting an apiary, but had been deterred by the initial expense of modern hives and appliances; and the first 5 modern hives that I ever bought were purchased quite unexpectedly, and almost accidentally! Augusta Co., Va.

Dr. Miller's Answers

Send Questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.

As to Answers by Mail.

Every now and then some correspondent asks a question which he desires to have answered by mail instead of having it answered in this department. Sometimes he seems to think his question is not of sufficient importance to be answered in print, and so he will be satisfied with a written answer. If the question is worth answering at all it is worth answering here, for any one who pretends to conduct a department of this kind ought to consider himself a fair target for any question on bee-culture not fully answered in the bee-books, and he should be ready to answer it here, if he can.

A larger number prefer a private answer because they think they might get it in less time. That might or might not be, for I am generally so crowded that a letter I am not obliged to answer may be delayed some time, whereas it is a matter of business to answer questions in this department as promptly as possible, no matter how crowded I am. Even if there is an abundance of leisure, it will easily be seen that if it would be right to answer one by mail it would be right to answer all in the same way, and that would take a good many days of every year without pay for the work.

Another reason for answering here, is so that a number can have the benefit of the answers, whereas an answer by mail would be limited to an individual.

A letter before me gives, however, a reason differing from all others. The writer says the answers in the Bee Journal are uncertain and unsatisfactory, and so he wishes a private answer. I see no reason why answers in this department should be less certain than those sent in a private letter. As to their being unsatisfactory, I am painfully conscious that such is the case sometimes, from the simple fact that I don't know enough to answer them any better. But what reason is there to suppose that any more satisfactory answer would be sent in a private letter? I am paid for answering questions in this department, and would get

nothing for a private answer. Do people generally work better when they work for nothing than when they get pay for their work? No, whatever may be their defects, the answers in this department are the very best I know how to get up, and I couldn't improve them for private circulation. But with study and practice I may improve; and hope that in the future this department will be a shade better than in the past.

Send on your questions and I'll give you the best answers I have in stock, but don't ask me to make an exception in your case as to the place for answering.

C. C. MILLER.

Hives and Management for Comb Honey.

1. What consideration led you to change from the 10-frame hive? This would have been a valuable point in "Forty Years Among the Bees." Please give me this answer as exhaustively as possible. I am running 150 colonies for comb honey, and am ready to purchase that many hives, hence the question above.

2. Do you use "double deckers" with all your colonies up to the honey-flow?

3. If you have but 8 frames of brood at the commencement of the honey-flow, where is the advantage of "double deckers" if the same amount can be secured in a 10-frame hive? I had 8 frames of brood in all my colonies at the commencement of the flow. I fed 1200 pounds of sugar in Doolittle feeders, however.

4. You speak of much swarming the season just past; I thought you practiced forced swarming, examining colonies every 10 days for queen-cells. Well, how did you manage swarming this season? In your late work you speak of several methods not yet tested. What is the method you depend upon in the management of swarming?

5. Is there any method superior to hiving or brushing on 5 frames with starters? In practicing this method the past season, when white clover produced more pollen than honey, I had several hundred sections spoiled by pollen and brood, notwithstanding I used full sheets in sections. The pollen in the sections was not always accompanied with brood. Some of my finest cases of comb honey had pollen exclusively, no brood at all. Comb-building was very slow during a large period of the honey-flow.

6. In practicing forced swarming, I think the hatching brood should be transferred to the forced swarm so gradually as will keep the forced swarm in about the same condition as the colony from which it issued would have been in, had it had no inclination to swarm. The two drives, at intervals of 10 days, will not accomplish this result. How about shifting the parent colony every few days to the right, left, rear, and top, till most of the hatching brood is transferred from the parent colony to the forced swarm? How often should this shifting be done? I have practiced this to some extent this season, having scarcely a swarm issue from the forced swarm, though swarming was "furious," having had 16 in the air one Lord's Day by 10 o'clock.

7. On the 5-starter plan, I think the forced swarm, at the close of the honey-flow, should be transferred to the parent colony, which should have had just enough bees left (with a young queen) to protect the combs. After disposing of the old queen in a forced swarm, how should we proceed so as to get the forced swarm back to the parent colony, so as to have the brood and queen out of the five-starter combs into the parent hive?

8. As to the question of putting the second super above or under the first, I will say from a pollen-and-brood-in-sections standpoint, put the empty super above. I believe that had I practiced the reverse this season I would have had half of my supers with more or less pollen; but even as it was I had plenty of both in the sections, because the first super had but full sheets instead of combs half filled with honey.

9. In regard to wax-larvæ injuring sections, I will say that when the plain sections are packed in shipping-cases without fumigation, the wax-larvæ are about equal in some instances to an uncapping-knife. I have seen the entire face of a section uncapped almost completely. Would a teaspoonful of carbon-bisulphide poured into a shipping-case after it is filled minus one section, then the missing section replaced and the lid nailed on, be sufficient to destroy all eggs and larvæ? Does the bisulphide kill the eggs?

10. How does it come about that while I have much swarming, my neighbor, 50 yards away, has practically no swarming among his blacks year after year, although they are so crowded for room that they build comb on the outside

of the hive? I believe it would pay to rear queens from his stock for a non-swarming strain, or else ferret out the conditions peculiar to him that begets such results.

11. How many cubic feet per colony is required in cellar-wintering? I am thinking of putting the bees indoors.

12. And now for wintering in southern Ohio: A gentleman conceived the idea of banking his colonies to the top of the brood-chamber, and having packing on top of it. The result after several years has been a uniformly splendid wintering, so that colonies not protected would not compare with them the following season for strength and profit.

13. I am surprised at your using the Hubbard press and Daisy foundation-fastener, when the Rauchfuss is so superior. I can fold and foundation 3 sections per minute.

You will have to excuse me for the fusillade of questions, suggestions to questions, etc., for I have been 20 years among the bees, and have scarcely asked a question. No wonder I am no further along. My crop was only 2 tons from 100 colonies, with the prospect of feeding one ton of sugar. Increased 50, however. OHIO.

ANSWERS.—1. I changed partly to be in fashion, partly because hives and supers were lighter to handle, and that bees might sooner finish up work in the smaller super. The 10-frame hives were not large enough at all times, and two stories of 10 frames each were too large.

2. No, only where they are actually needed. Some years few may be needed, some years many. So long as a colony has plenty of room in 8 frames there's no use in giving more, but it's a draw-back to restrict them to 8 when they need more.

3. By referring to my first answer you will see some advantages of 8 frames, even if 10 frames would hold all the brood, as lightness of handling hives and supers, etc. To some this matter of heavy or light handling is a small thing; to others it is very important. If you have but 8 frames of brood, never going beyond that, the case would be different, but by giving two stories you will often go beyond the capacity of the 10 frames, having 11 to 14 frames of brood.

4. As a matter of fact I don't depend upon anything, for lack of something entirely dependable. The past season watch was kept for queen-cells. If only eggs were found in cells, they were destroyed, and some colonies were satisfied to go through the whole season without getting any farther than to have eggs in cells. Such colonies are likely to give very satisfactory results. Some years a goodly number of colonies will not even go as far as to have eggs in cells, but last season was so badly exceptional that I'm not sure whether there were any of that kind. If upon the next visit cells were found well-advanced, perhaps sealed, it was pretty evident that the bees meant business, and would be likely to swarm before the next round. Then perhaps a swarm was shaken. Perhaps the queen was removed—killed if not entirely satisfactory in every way, otherwise put in a nucleus—and at the next round all cells were destroyed and a queen given. If a young queen was given that had just begun laying, no more attention was given to that colony for the season; if their own or any other old queen was given, they were further watched. Sometimes, when in a big hurry, cells were destroyed even when well advanced; and in that case the queen would likely turn up missing at the next visit. A young laying queen was given in her place and that colony counted settled for the season. I think that covers most of the cases, for some other things were tried on so small a scale as not to be worth relating. You see, I'm not very thoroughly settled in the matter, and perhaps never will be. It may be said in passing that as a matter of course there were cases in which cells were started for superseding instead of swarming, but one could not easily tell, and the safer way was to consider all cells as meant for swarming.

5. Shaking or brushing upon 5, or any other number of frames, is in my judgment not to be compared with the plan of having a colony go through the season without making any preparation whatever for swarming. Neither does it compare in results, I am afraid, with the plan of letting a colony go queenless 10 days and then giving a queen that has just begun to lay. If your large amount of pollen and brood in the sections was due to the fact that 5 frames with starters were given, then the plan of having a larger number of frames, or having them filled with foundation or drawn combs, would be superior.

6. My plan of working involves an objectionable amount of labor; I'm afraid shifting frequently the old hive would be still worse. I don't know just how it would work, and I don't know how often the shifting should be

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FROM MANY FIELDS

First Snap of Winter.

We are just having our first snap of winter here, the temperature playing around zero the past few days. Bees have gone into winter quarters in fine shape.

H. G. QUIRIN.

Huron Co., Ohio, Dec. 17.

A Correction.

FRIEND YORK:—In the 2d paragraph of my article, on page 791, an error appears. Please correct as follows: This being the case, then practically the progeny of the young queens was not old enough to gather honey prior to the date of Aug. 8. As it stands there, the type makes me say that none of the young queens were old enough, etc.

Scioto Co., Ohio. W. W. MCNEAL.

Wintering in an Out-Building.

I had 14 colonies to begin the season of 1903 with, and now have 40, all in good condition, besides getting 600 or 700 pounds of comb honey. I have stored the bees in an out-building, stacked in four hives wide and three high, in a room 6x12, and about 5 or 6 feet high. They have plenty of air, but nearly

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